

TOSHIBA

STEREO CASSETTE DECK

PC-D10



For TE, TU, AY



For TA, TC, VF

SPECIFICATIONS

Power Source:
AC 220V 50Hz for Europe
AC 240V 50Hz for United Kingdom & Australia
AC 115V/230V 50Hz/60Hz for Southeast Asia,
South America and Middle East.
AC 120V 60Hz for U.S.A. and Canada

Power Consumption:
20W

Track Type.
4-track, 2-channel stereo

Recording System:
AC bias

Erase System.
AC erasure

Head.
Super AP Head x 1
4-gap AF Head x1

Motor:
DC servo motor

Tape Speed:
4.8 cm/sec

Fast Forward/Rewind Time:
Approx. 80 seconds (C-60 tape)

Semiconductors:
10 ICs, 21 transistors, 27 diodes

Wow and Flutter:
0.05% (WRMS)
0.16% (DIN, Peak-to-Peak)

Signal/Noise Ratio.
62 dB (Metal tape)

58 dB (Chrome tape)
Dolby in, weighted, line, peak
Dolby effect: 5 dB improvement at 1 kHz,
10 dB improvement at 5 kHz

Frequency Response:
at 0 dB input
Metal tape 35 Hz to 12.5 kHz
Chrome tape 35Hz to 8 kHz
at -20 dB input
Metal tape 35 Hz to 18 kHz
Chrome tape 35 Hz to 18 kHz
Normal tape 35 Hz to 17 kHz

Input Jack.
Mic 0.25 mV (600 Ohms to 10 k Ohms)
Line 70 mV (Over 50 K Ohms)

Output Jack.
Line 0.4V (50 k Ohms)
Headphones 1 mW (8 Ohms)

Dimensions.
257(W) x 106(H) x 214(D) mm
(including feet and protruding knobs)

Weight.

3.3kg

Accessories:

Connection cords (PIN-PIN) x 2
Head cleaning stick x 1
Dust cover x 1

Specifications are subject to change without notice.

TA, TC, TE, TU, AY, VF

5. TECHNICAL POINTS

Peak Meter Drive Circuit

The meter drive circuit operates for $-B$ side to be 0V.
 The Q505 (TA7318P) is an IC for wide range meter drive and operates as follows.

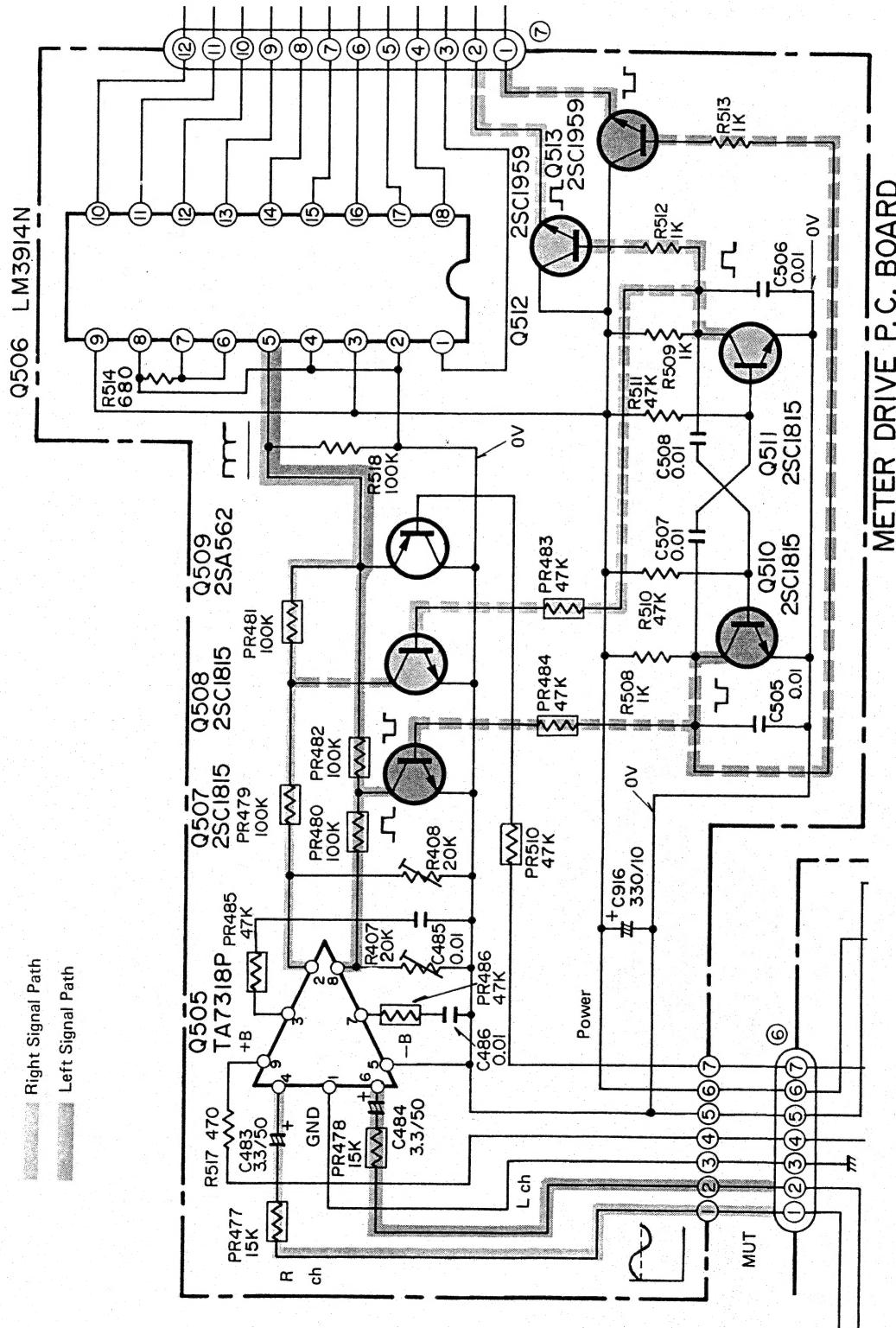


Figure 15.

Input terminals are divided in two channels at pin Nos. 4 (R ch) and 6 (L ch) of Q505.

The signal inputed in these terminals makes a wave form on VTVM as shown in Figure 16 (Input signal: $f = 1$ kHz, Dolby Point: 580 mV, +3 dB). The signal outputted at the pin Nos. 3 and 7 makes a waveform as shown in Figure 17. This waveform occurs with a charge or discharge of C485 and C486, and is charged in accordance with an input signal level.

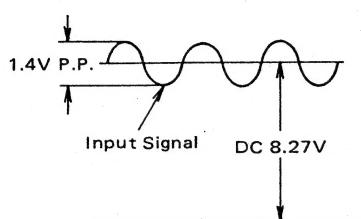


Figure 16. (4P, 6P)

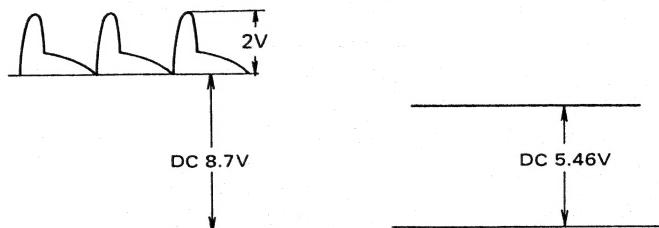
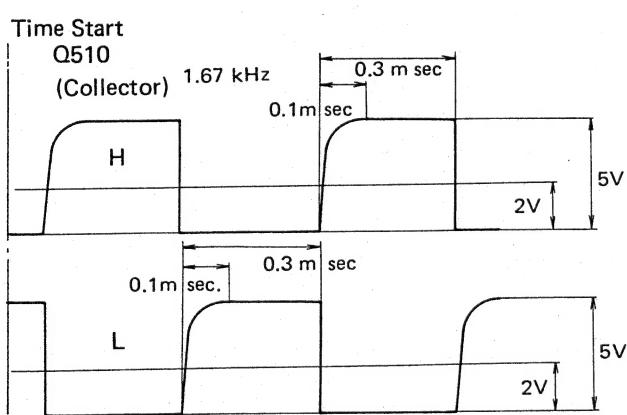


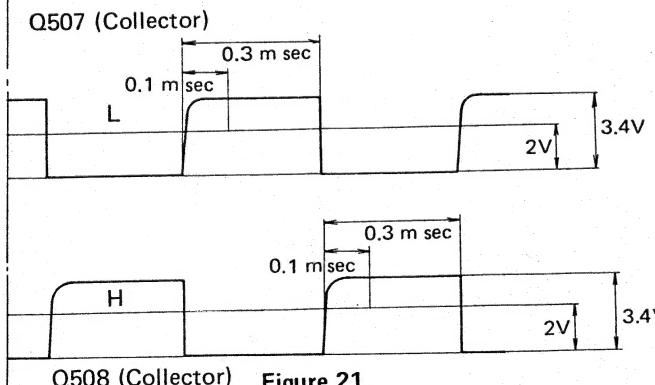
Figure 17. (3P, 7P)

Figure 18. (2P, 8P)

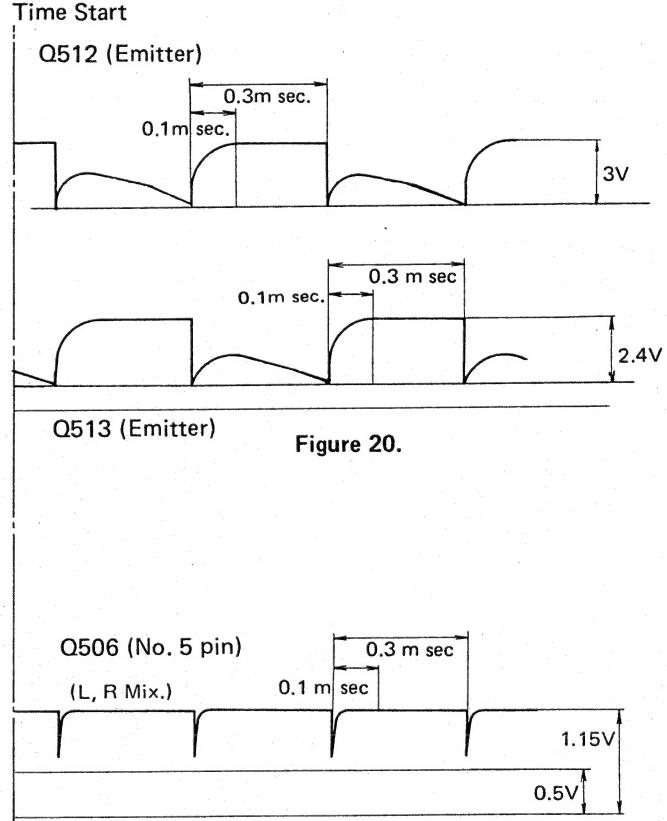
The output signal at pin Nos. 2 and 8 terminal makes a rectified waveform (figure 18) and make the meter to drive. This waveform is also changed with an input signal level. The present output voltage level that is about 5.5V, is further attenuated to be an appropriate level to a meter driving through R479 to R482. (Figure 18)



Q511 (Collector) Figure 19.



Q508 (Collector) Figure 21.



Q513 (Emitter) Figure 20.

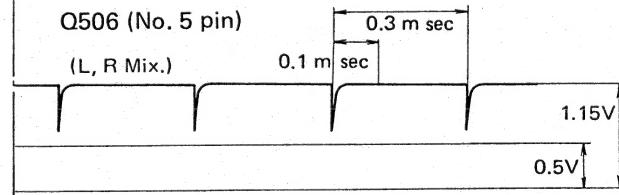
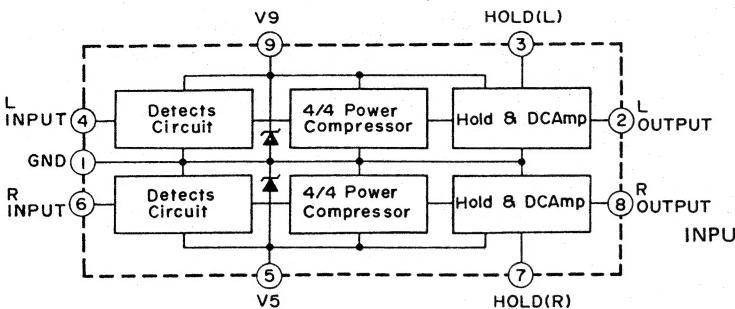
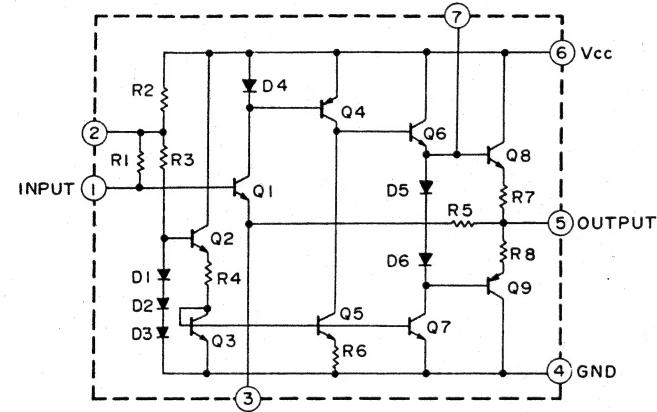


Figure 22.

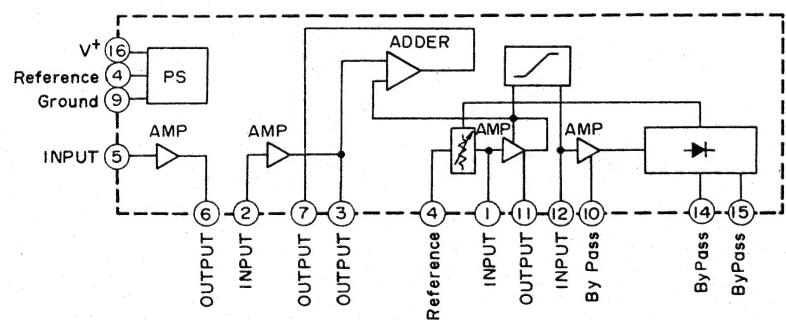
● TA7318P (Wide Range Peak Power Meter Drive)



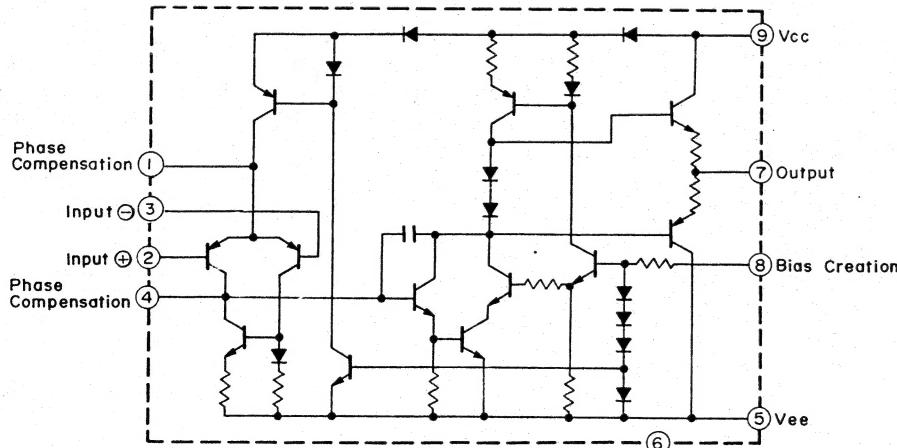
● TA7140P (Low Frequency Amplifier)



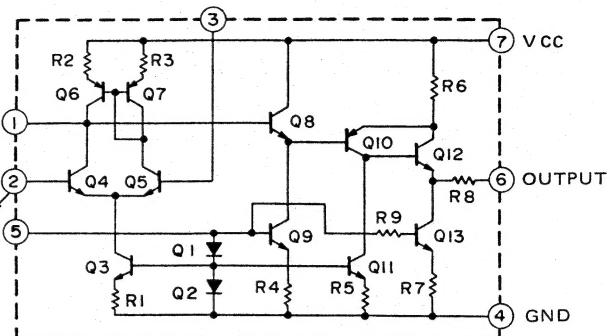
● NE646BN-C (Dolby Noise Reduction)



● TA7322P (Two Power Pre-Amplifier for High Frequency & Low Noise)



● TA7136P (Two Power Pre-Amplifier)



● LM3914N (LED Drive for Dot/Bar Indication)

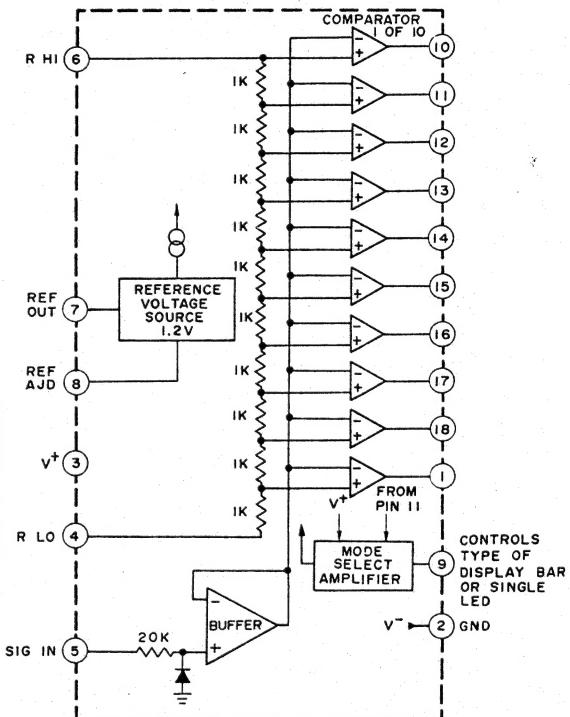


Figure 23.

6. BLOCK DIAGRAM

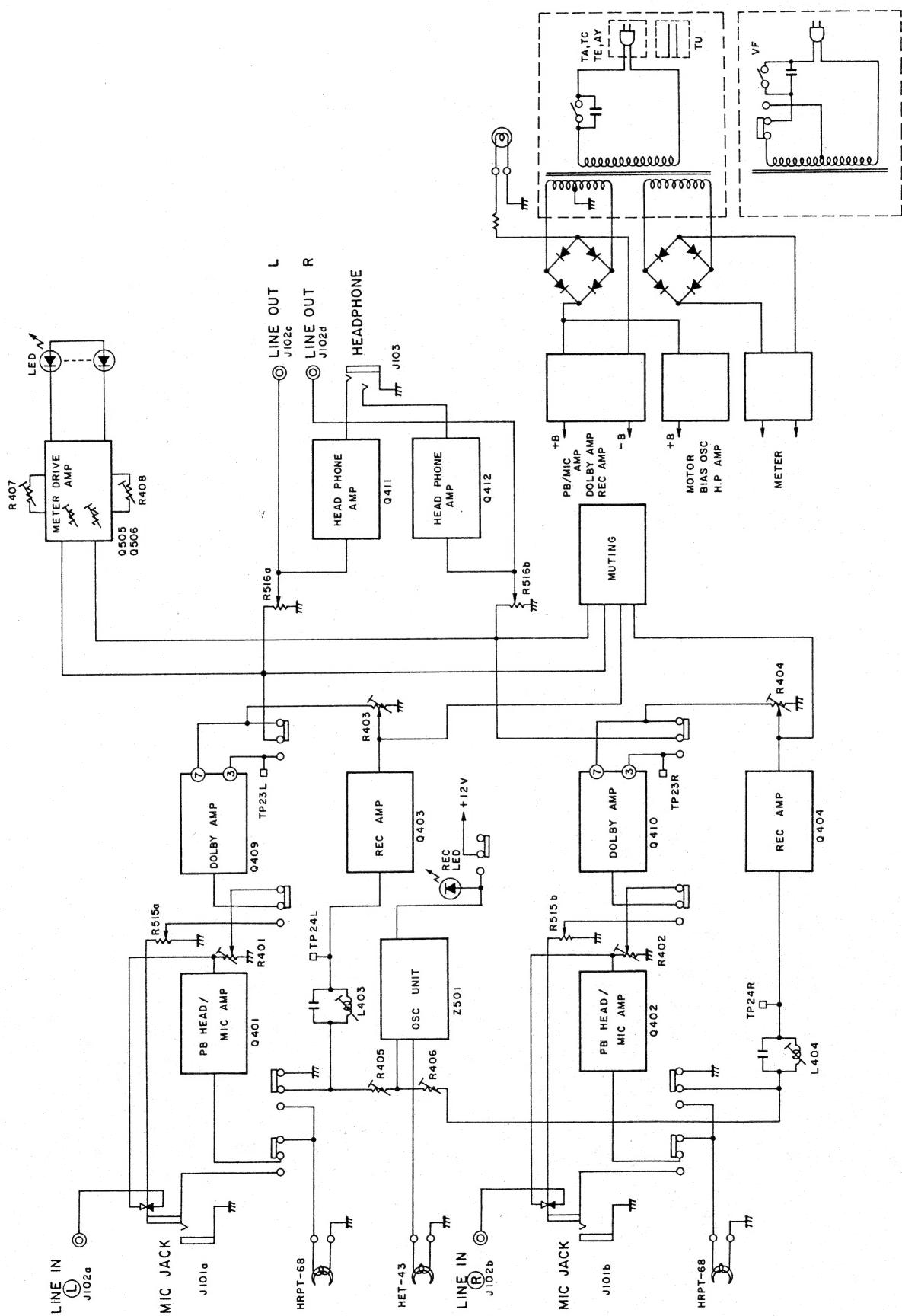


Figure 24.

7. ELECTRICAL ADJUSTMENTS

■ ADJUSTMENT LOCATIONS

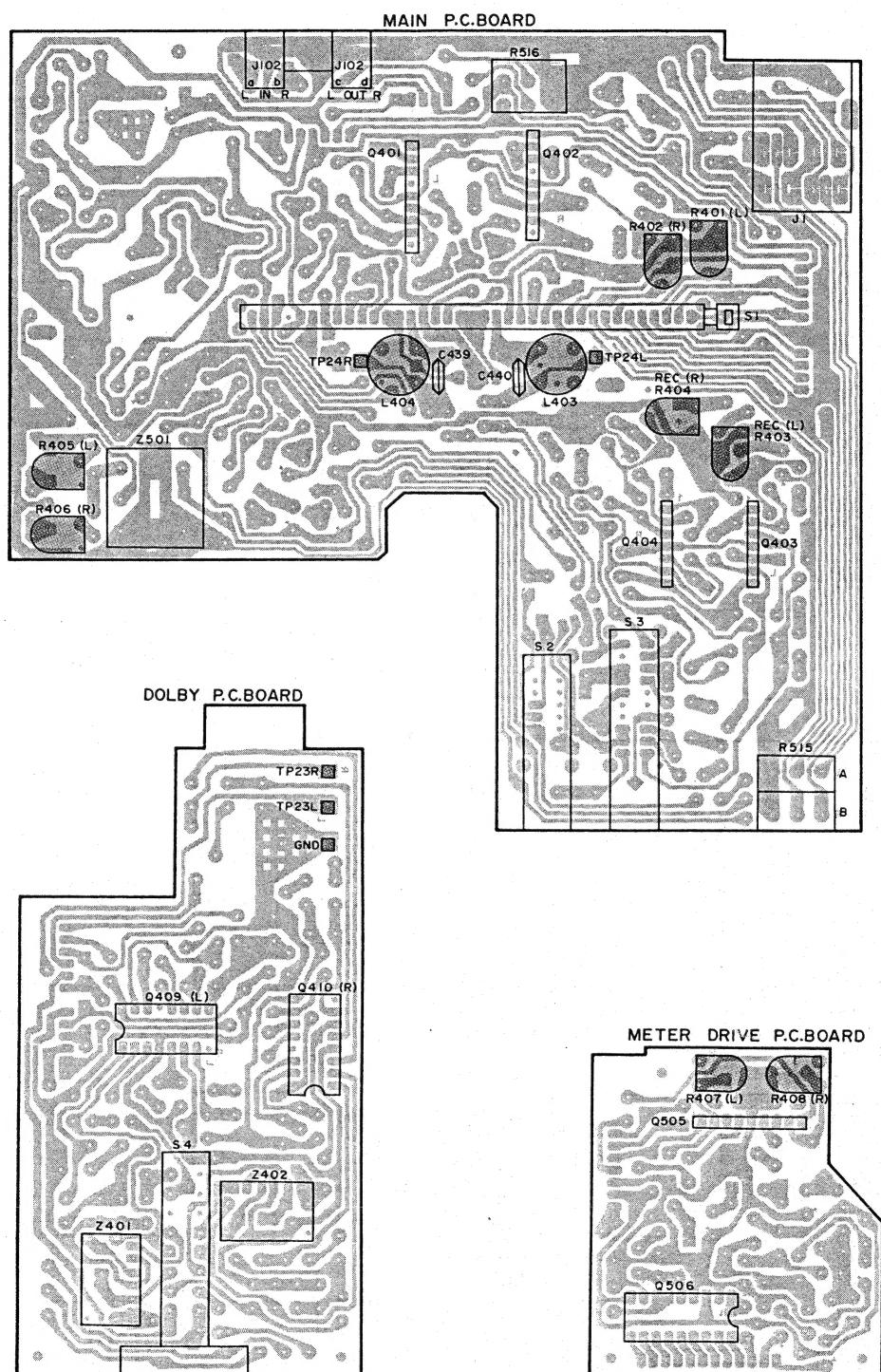


Figure 25.

■ ADJUSTMENT PROCEDURES

| Adjustment Items | Spec. Value | Test Tape | Volume | | Switch | | | Adjustment Parts | Test Points | Input (ATT) | Connection | Remarks |
|------------------------------------|----------------------------|-----------|--------|------|------------------|------------------|-----|---------------------------------|----------------|-----------------------------|------------|--|
| | | | Rec. | Out | BIAS | EQ | NR | | | | | |
| Head Azimuth Confirmation | Max. | MTT-114 | — | Max. | NOR | NOR | OUT | Adjusting Screw (See Figure 26) | Line Output | — | — | Max. output level on AC voltmeter. After adjusting, must be applied a locking paint to the adjusting screw. |
| Playback Sensitivity | $580 \pm 10\text{mV}$ | MTT-150 | — | Max. | NOR | NOR | OUT | R401 R402 | TP23L TP23R | — | Figure 27 | VTVM indicates $580 \pm 10\text{mV}$. (TP23L): Cathode side of C469 (10mfd/16V). |
| Bias Leak | Min. | — | — | Max. | NOR | NOR | OUT | L403 L404 | TP24L TP24R | — | Figure 28 | VTVM indicates minimum. |
| Line Input | $580 \pm 10\text{mV}$ | — | Adjust | Max. | CrO ₂ | CrO ₂ | OUT | Recording Volume | TP23L TP23R | 400 Hz —20 dB ±0.5 | Figure 29 | VTVM indicates $580 \pm 10\text{mV}$. |
| Level Meter | Meter Ind.: -3 dB | — | Adjust | Max. | CrO ₂ | CrO ₂ | OUT | R407 R408 | Meter | 400 Hz —26 dB ±0.5 | — | Four squares (LEDs) of 0 dB to -3 dB do not illuminate. |
| | Meter Ind.: $+3\text{ dB}$ | — | Adjust | Max. | CrO ₂ | CrO ₂ | OUT | — | Meter | 400 Hz —20 dB | — | One square (Red LED) illuminates. |
| Rec/Play Frequency Characteristics | $0 \pm 1\text{ dB}$ | AC-511 | Adjust | Max. | CrO ₂ | CrO ₂ | OUT | R405 R406 | Line Output | 400 Hz/ 10 kHz —43 dB | Figure 30 | Difference between 400 Hz and output is kept within $0 \pm 1\text{ dB}$ on VTVM. |
| Rec./Play Sensitivity | $580 \pm 10\text{mV}$ | AC-511 | Adjust | Max. | CrO ₂ | CrO ₂ | OUT | R403 R404 | TP23L TP23R | 400 Hz —20 dB | Figure 31 | VTVM indicates $580\text{mV} \pm 10\text{mV}$ (Reference value). |

● Test conditions: Supply voltage: See specifications on book cover, Input: 0 dB (1 V rms). Line input impedance: 600 ohm
Line output load impedance: 47K ohm, Test point load impedance: non-load.

■ TEST EQUIPMENTS

1. VTVM (Vacuum Tube Voltmeter)
2. Signal Generator
3. Resistance Attenuator
4. Screwdriver
5. Test Tapes
MTT-114 (10 kHz)
MTT-150 (400 Hz)
AC-511 (CHROME TAPE)

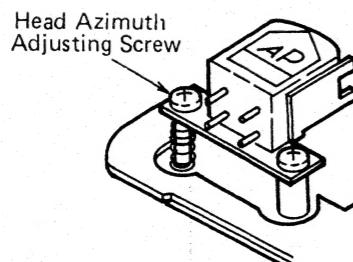


Figure 26.

■ TEST EQUIPMENT CONNECTIONS

(Playback Sensitivity Adjustment)

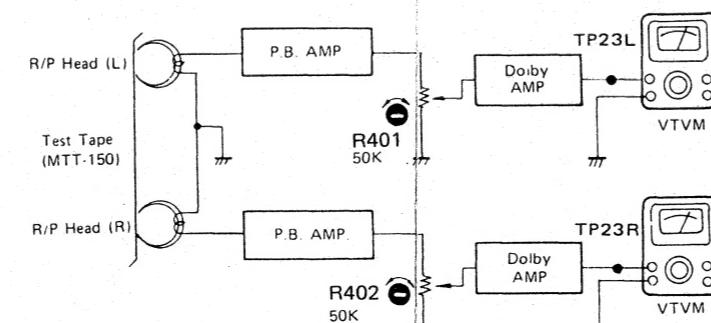


Figure 27.

(Bias Leak Adjustment)

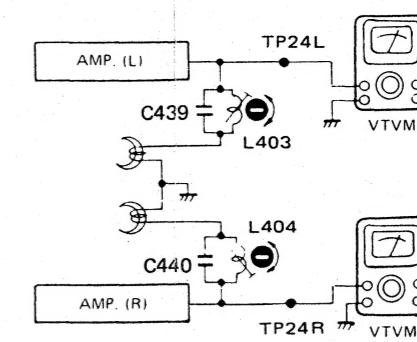


Figure 28.

(Line Input Adjustment)

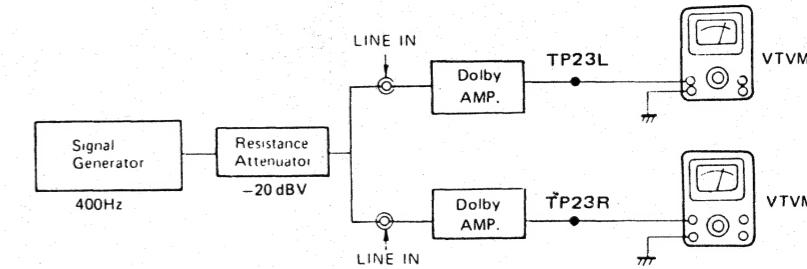


Figure 29.

(Rec/Play Frequency Characteristics Adjustment)

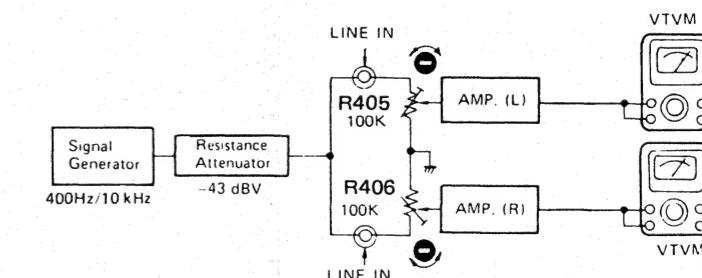


Figure 30.

(Rec/Play Sensitivity Adjustment)

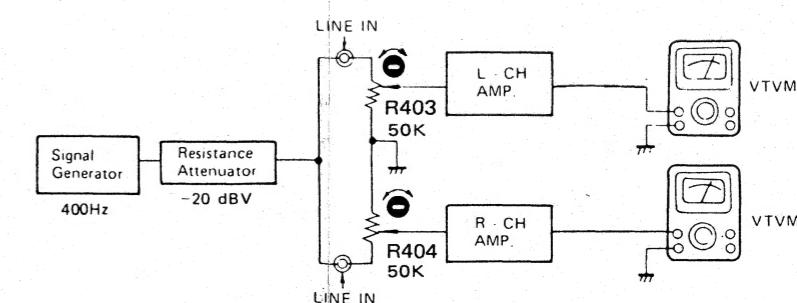


Figure 31.

8. P.C.BOARD PARTS LOCATIONS

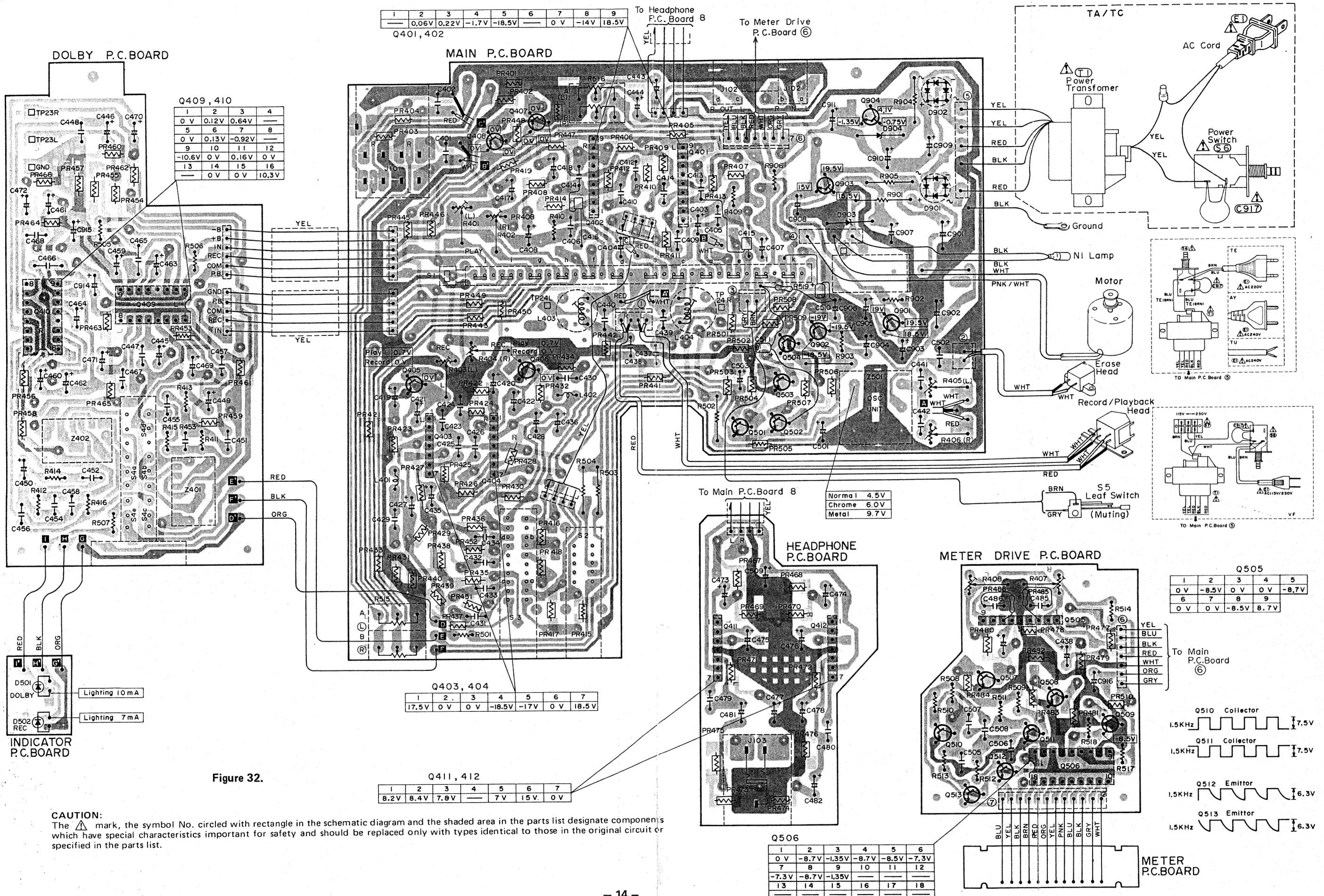


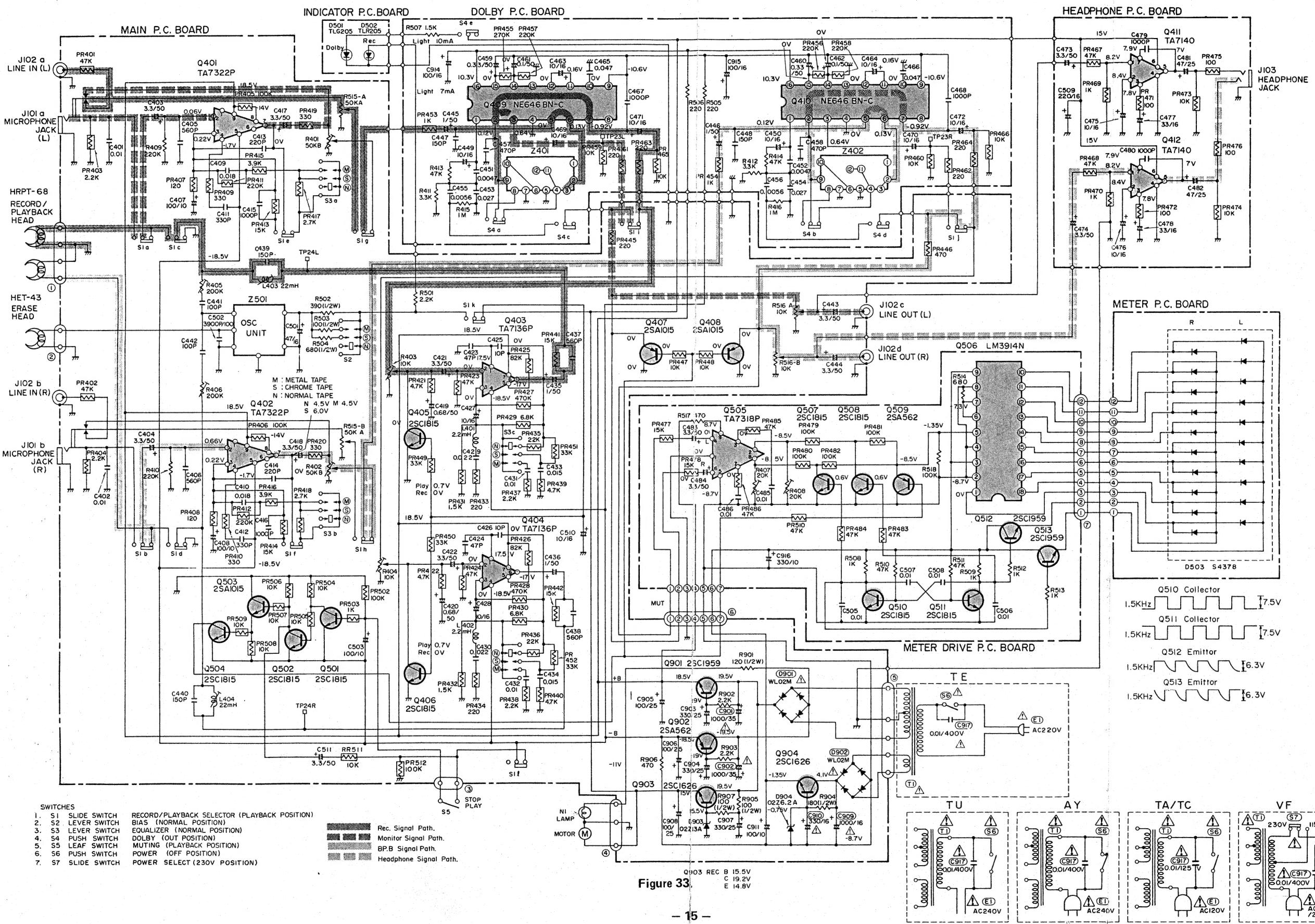
Figure 32.

CAUTION: The  mark, the symbol No. circled with rectangle in the schematic diagram and the shaded area in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

9. SCHEMATIC DIAGRAM

CAUTION:

The Δ mark, the symbol No. circled with rectangle in the schematic diagram and the shaded area in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.



10. CABINET PARTS LOCATIONS

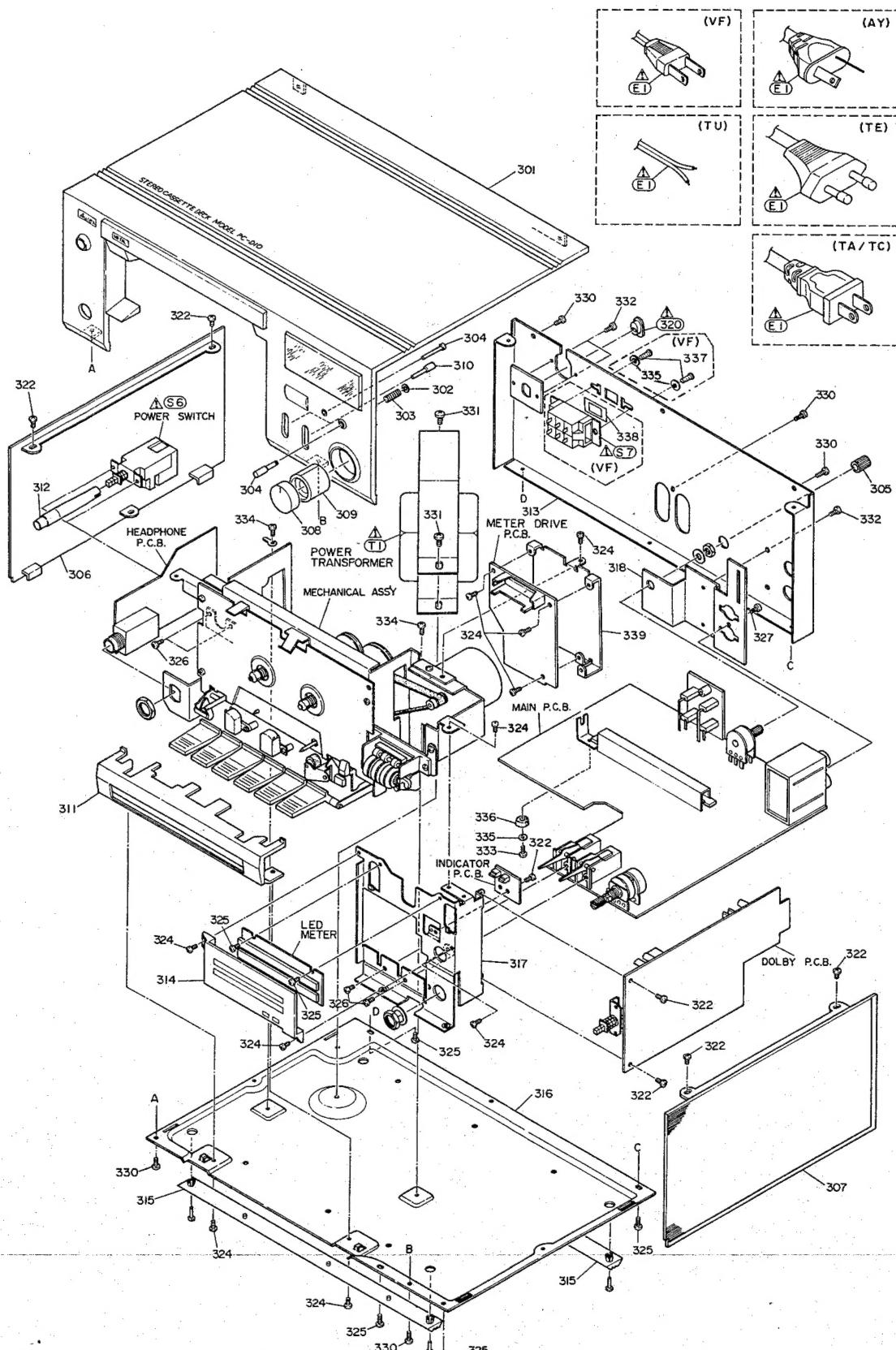
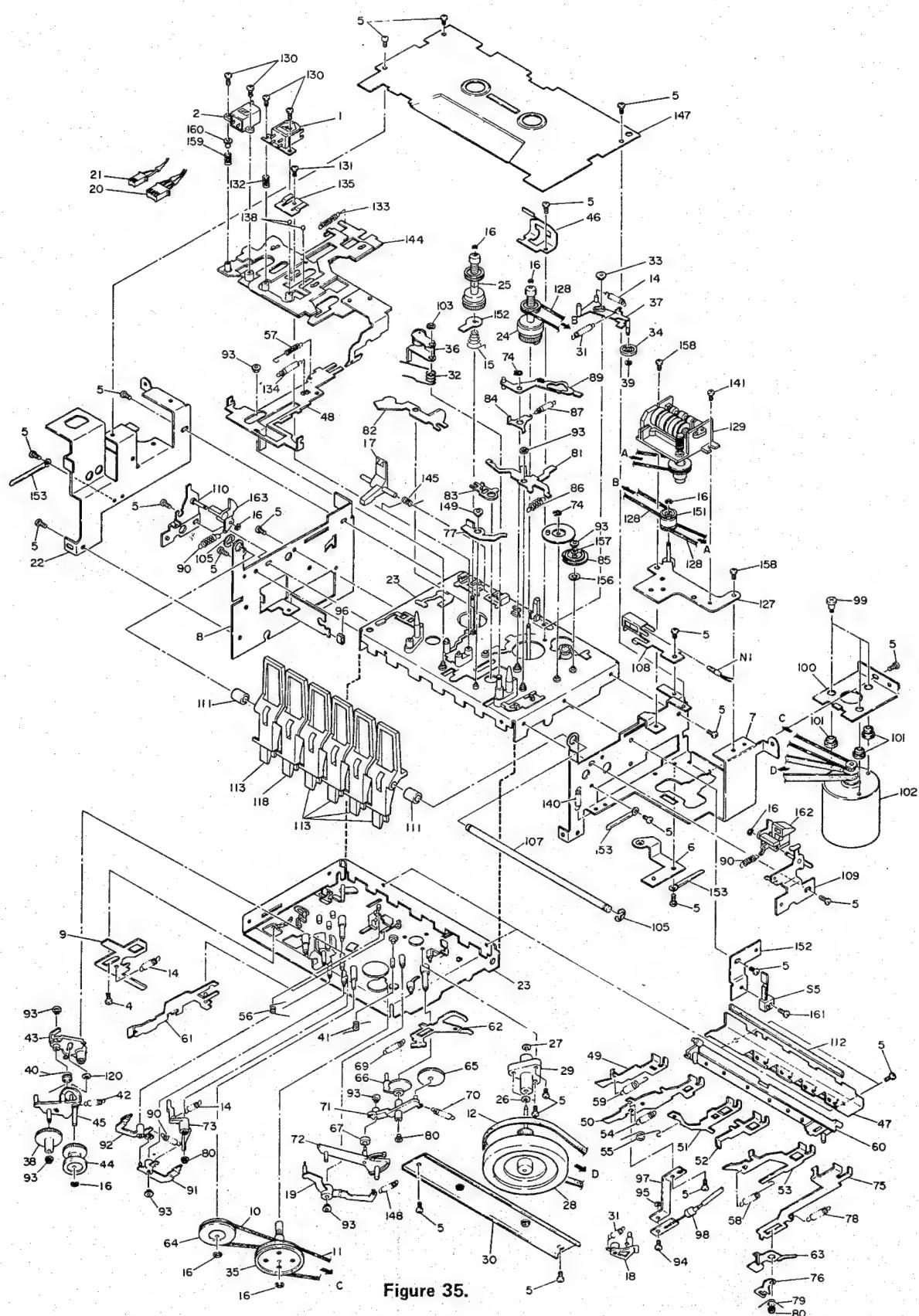


Figure 34.

NOTE: Parts excluded in the Parts List are not available as replacement parts.

11. MECHANICAL PARTS LOCATIONS



12. PARTS LIST

CAUTION:

The  mark, the symbol No. circled with rectangle in the schematic diagram and the shaded area in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

| Symbol No. | Part No. | Description |
|-------------------------|----------|----------------------------------|
| MECHANICAL PARTS | | |
| 1 | 22217343 | Head, Record/Playback (HRPT-68) |
| 2 | 22218213 | Head, Erase (HET-43) |
| 4 | 22707461 | Screw, Tapping, 2.6φ x 6mm (BID) |
| 5 | 22707350 | Screw, 2.6φ x 5mm (DT BID) |
| 10 | 25755416 | Belt Cam-wheel |
| 11 | 25755417 | Belt, Meddle Pulley |
| 12 | 25755434 | Belt Drive |
| 14 | 25771584 | Spring, Brake Lever |
| 15 | 25772538 | Spring, Sift lever |
| 16 | 25735159 | E Washer, 1.5φ |
| 17 | 25782308 | Lever, Erase Prevention |
| 18 | 25782310 | Lever, Record Prevention |
| 19 | 25782312 | Lever, Sift |
| 24 | 25712363 | Take-up Pulley Ass'y |
| 25 | 25712364 | Supply Pulley Ass'y |
| 26 | 25764398 | Washer, Nylon, 2.5φ |
| 27 | 25764520 | Washer PA, 2.4φ |
| 28 | 25717410 | Flywheel Ass'y |
| 29 | 25718158 | Holder, Capstan Ass'y |
| 31 | 25771957 | Spring, Take-up Idler |
| 32 | 25773447 | Spring, Pinch Roller, Right |
| 33 | 25783195 | Bush, 2.5φ |
| 34 | 25713471 | Take-up Idler Ass'y, Right |
| 35 | 25713492 | Puller Ass'y, Center |
| 36 | 25717440 | Pinch Lever Ass'y, Right |
| 37 | 25791072 | Take-up Slider Ass'y |
| 38 | 25756198 | Gear, Rewind |
| 39 | 25764489 | Washer, PO, 1.7φ |
| 40 | 25773421 | Spring, Rewind |
| 41 | 25773422 | Spring, FF |
| 42 | 25771586 | Spring, Lever, High Speed |
| 43 | 25782304 | Lever, High Speed |
| 44 | 25713491 | Idler Ass'y, High Speed |
| 45 | 25791073 | Lever Ass'y High Speed |
| 46 | 25779050 | Spring, Cassette Holder |
| 49 | 25741584 | Operation Plate, Stop |
| 50 | 25741585 | Operation Plate, Record |
| 51 | 25741586 | Operation Plate, Rewind |
| 52 | 25741587 | Operation Plate, Playback |
| 53 | 25741588 | Operation Plate, Fast-forward |
| 54 | 25771588 | Spring |
| 55 | 25773430 | Spring, Rewind Lever |
| 56 | 25773431 | Spring, Switch, Slider |
| 57 | 25776099 | Spring, Play Slider |

| Symbol No. | Part No. | Description |
|------------|----------|---------------------------------------|
| 58 | 25776060 | Spring, FF Lever |
| 59 | 25776061 | Spring, Stop Lever |
| 60 | 25782331 | Plate, Rock |
| 63 | 25748418 | Lever, ASO Pause |
| 64 | 25751593 | Cam-wheel |
| 65 | 25756199 | Gear ASO A |
| 66 | 25756200 | Gear, ASO B |
| 67 | 25761407 | Spacer, ASO Lever |
| 69 | 25771586 | Spring, ASO Slider |
| 70 | 25776062 | Spring, ASO Lever |
| 71 | 25782302 | ASO Lever |
| 72 | 25782306 | Lever, ASO |
| 73 | 25782309 | Lever, ASO Bias |
| 74 | 25735197 | G Ring, 2.5φ |
| 75 | 25741589 | Operation Plate, Pause |
| 76 | 25748424 | Lever, Lock, Pause |
| 78 | 25771594 | Spring, Pause Lever |
| 79 | 25773446 | Spring, Lock, Pause |
| 80 | 25783211 | Bush, 3φ |
| 85 | 25756189 | Gear, Reverse, A |
| 86 | 25771544 | Spring, Gear Lock Lever |
| 87 | 25771964 | Spring, Lever, Bias |
| 88 | 25713503 | Gear Ass'y, Reverse B |
| 89 | 25791064 | Lever Ass'y, Repeat |
| 90 | 25771963 | Spring, Cassette Holder |
| 91 | 25715182 | Brake Lever Ass'y (T) |
| 92 | 25715183 | Brake Lever Ass'y (S) |
| 93 | 25783199 | Washer, PA, 2φ |
| 94 | 22707473 | Screw, 2.6φ x 6mm (BID) |
| 95 | 25720130 | Nut, 2.6φ |
| 96 | 25761354 | Cushion, Arm |
| 97 | 25774556 | Spring, Record |
| 99 | 22707429 | Screw, 2.6φ |
| 101 | 25761238 | Cushion, Motor |
| 102 | 25791081 | Motor Ass'y |
| 103 | 22703118 | E Ring, 2φ |
| 105 | 22703280 | E Ring, 4φ |
| 112 | 25761403 | Cushion, Button |
| 113 | 25782318 | Button, Play, Rewind, FF, Pause, Stop |
| 118 | 25782319 | Button, Record |
| 120 | 25764550 | Washer, PO, 3.6φ |
| 128 | 25755359 | Belt, Counter |
| 129 | 25873212 | Counter |
| 130 | 22707451 | Screw, 2φ x 5mm |
| 131 | 22707300 | Screw, Tapping, 2.6φ x 6mm(BID) |
| 132 | 25772240 | Spring, Head |
| 133 | 25776126 | Spring, Search Slider |

| Symbol No. | Part No. | Description |
|------------|----------|--------------------------|
| 134 | 25776058 | Spring, Head Slider |
| 135 | 25779020 | Spring, Head Slider Hold |
| 138 | 25757120 | Ball, Steel 3φ |
| 139 | 25735242 | Washer, CS, Head Chassis |
| 140 | 25776127 | Spring |
| 141 | 22707366 | Screw, 2.6φ x 6mm (BID) |
| 145 | 25773448 | Spring, Record Lock |
| 147 | 25791078 | Mechanism Cover Ass'y |
| 148 | 25771780 | Spring, Sift Lever |
| 151 | 25758035 | Pulley, Center |
| 156 | 25764582 | Washer, PO, 4φ |
| 157 | 25764583 | Washer, PO, 2φ |
| 158 | 22707151 | Screw, 2.6φ x 5mm (BID) |
| 159 | 25772438 | Spring, Erase Head |
| 160 | 25726489 | Sleeve, Erase Head |
| 161 | 22707499 | Screw, 2φ x 8mm (DT BID) |
| 162 | 25782257 | Cassette Holder, Right |
| 163 | 25782292 | Cassette Holder, Left |

| Symbol No. | Part No. | Description |
|------------|----------|-----------------------------|
| 332 | 22707512 | Screw, 3φ x 6mm (FT BID) |
| 333 | 22707535 | Screw, 2.6φ x 12mm (BID) |
| 334 | 22701313 | Screw, 3φ x 4mm (BID) |
| 335 | 22703269 | Washer |
| 336 | 22874027 | Foot |
| 337 | 22707536 | Screw, 3φ x 10mm (BID) (VF) |
| 338 | 22950753 | Label, Voltage (VF) |

TRANSISTORS, DIODES AND IC'S

| | | |
|-----------|----------|------------------------|
| Q401, 402 | 22114681 | IC, TA7322P |
| Q403, 404 | | IC, TA7136P |
| Q405, 406 | | Transistor, 2SC1815-GR |
| Q407, 408 | | Transistor, 2SA1015-GR |
| Q409, 410 | | IC, NE646BN-C |
| Q411, 412 | | IC, TA7140P |
| Q501, 502 | | Transistor, 2SC1815-GR |
| Q503 | | Transistor, 2SA1015-GR |
| Q504 | | Transistor, 2SC1815-GR |
| Q505 | | IC, TA7318P |
| Q506 | | IC, LM3914N |
| Q507, 508 | | Transistor, 2SC1815-GR |
| Q509 | | Transistor, 2SA562-Y |
| Q510, 511 | | Transistor, 2SC1815-GR |
| Q512, 513 | | Transistor, 2SC1959-Y |
| Q901 | | Transistor, 2SC1959-Y |
| Q902 | | Transistor, 2SA562-Y |
| Q903, 904 | | Transistor, 2SC1626-Y |
| D501 | | Diode, TLG208 |
| D502 | | Diode, TLR208 |
| D503 | | Diode, S4378 |
| D901, 902 | 22115485 | Diode, WL02M |
| D903 | | Diode, 02Z13A |
| D904 | | Diode, 02Z6.2A |

ELECTRICAL PARTS

| | | |
|------|----------|-----------------------------|
| △ T1 | 22223737 | Transformer, Power (TE) |
| △ T1 | 22223738 | Transformer, Power (TU, AY) |
| △ T1 | 22223736 | Transformer, Power (TA, TC) |
| △ T1 | 22223739 | Transformer, Power (VF) |
| S1 | 22195464 | Slide Switch, Rec./Play. |
| S2 | 22195361 | Lever Switch, Bias |
| S3 | 22195362 | Lever Switch, EQ |
| S4 | 22195440 | Push Switch, Dolby |
| S5 | 22195465 | Leaf Switch, Muting |

| | Symbol No. | Part No. | Description |
|-----------|------------|----------------------|-------------------------------------|
| ▲ | S6 | 22146295 | Push Switch, Power (TE, TU, AY, VF) |
| ▲ | S6 | 22195226 | Push Switch, Power (TA, TC) |
| ▲ | S7 | 22146186 | Slide Switch, Power Select (VF) |
| L401, 402 | 22232207 | Coil, Trap (2.2mH) | |
| L403, 404 | 22232203 | Coil, Trap (22mH) | |
| Z401, 402 | 22153075 | Filter, Dolby | |
| Z501 | 22132530 | Bias OSC Unit | |
| N1 | 22113397 | Lamp, 14V/80mA | |
| J401 | 22163759 | Jack, US PIN | |
| J402 | 22163675 | Jack, Microphone | |
| J403 | 22163777 | Jack, Headphone | |
| E1 | 22176286 | Cord, Power (TE) | |
| E1 | 22176536 | Cord, Power (TU) | |
| E1 | 22176588 | Cord, Power (AY) | |
| E1 | 22176573 | Cord, Power (TA, TC) | |
| E1 | 22176125 | Cord, Power (VF) | |

CAPACITORS

D=±0.5pF, J=±5%, K=±10%

ABBREVIATIONS: CD=Ceramic Disk, EL=Electrolytic
MY=Mylar, PS=Polystyrene

| | | |
|-----------|----------|-----------------------|
| C401, 402 | 22372103 | MY, 0.01mfd, 50V, K |
| C403, 404 | 22448339 | EL, 3.3mfd, 50V |
| C405, 406 | 22349561 | CD, 560pF, 50V, K |
| C407, 408 | 22483101 | EL, 100mfd, 10V |
| C409, 410 | 22371183 | MY, 0.018 mfd, 50V, J |
| C411, 413 | 22349331 | CD, 330pF, 50V, K |
| C413, 414 | 22349221 | CD, 220pF, 50V, K |
| C415, 416 | 22372102 | MY, 1000pF, 50V, K |
| C417, 418 | 22448339 | EL, 3.3mfd, 50V |
| C419, 420 | 22480008 | EL, 0.68mfd, 50V, K |
| C421, 422 | 22448339 | EL, 3.3mfd, 50V |
| C423, 424 | 22362470 | CD, 47pF, 50V, K |
| C425, 426 | 22361100 | CD, 10pF, 50V, D |
| C427, 428 | 22445100 | EL, 10mfd, 16V |
| C429, 430 | 22371223 | MY, 0.022mfd, 50V, J |
| C431, 432 | 22372103 | MY, 0.01mfd, 50V, K |
| C433, 434 | 22372153 | MY, 0.015mfd, 50V, K |
| C435, 436 | 22448109 | EL, 1mfd, 50V |
| C437, 438 | 22349561 | CD, 560pF, 50V, K |
| C439, 440 | 22349151 | CD, 150pF, 50V, K |
| C441, 442 | 22349101 | CD, 100pF, 50V, K |
| C443, 444 | 22448339 | EL, 3.3mfd, 50V |
| C445, 446 | 22448109 | EL, 1mfd, 50V |
| C447, 448 | 22349151 | CD, 150pF, 50V, K |
| C449, 450 | 22445101 | EL, 10mfd, 16V |
| C451, 452 | 22371472 | MY, 4700pF, 50V, J |
| C453, 454 | 22371273 | MY, 0.027mfd, 50V, J |
| C455, 456 | 22371562 | MY, 5600pF, 50V, J |
| C457, 458 | 22349471 | CD, 470pF, 50V, K |

| Symbol No. | Part No. | Description |
|------------|----------|------------------------------------|
| C459, 461 | 22480006 | EL, 0.33mfd, 50V |
| C461, 462 | 22480003 | EL, 0.1mfd, 50V, K |
| C463, 464 | 22445100 | EL, 10mfd, 16V |
| C465, 466 | 22372473 | MY, 0.047mfd, 50V, K |
| C467, 468 | 22372102 | MY, 1000pF, 50V, K |
| C469, 470 | 22445100 | EL, 10mfd, 16V |
| C471, 472 | 22445100 | EL, 10mfd, 16V |
| C473, 474 | 22448339 | EL, 3.3mfd, 50V |
| C475, 476 | 22445100 | EL, 10mfd, 16V |
| C477, 478 | 22445330 | EL, 33mfd, 16V |
| C479, 480 | 22372102 | MY, 1000pF, 50V, K |
| C481, 482 | 22486470 | EL, 47mfd, 25V |
| C483, 484 | 22448339 | EL, 3.3mfd, 50V |
| C485, 486 | 22372103 | MY, 0.01mfd, 50V, K |
| C501 | 22445470 | EL, 47mfd, 16V |
| C502 | 22380101 | PS, 3900pF, 200V, K |
| C503 | 22483101 | EL, 100mfd, 10V |
| C505, 506 | 22372103 | My, 0.01mfd, 50V, K |
| C507, 508 | 22371103 | MY, 0.01mfd, 50V, J |
| C509 | 22485221 | EL, 220mfd, 16V |
| C510 | 22445100 | EL, 10mfd, 16V |
| C511 | 22448339 | EL, 3.3mfd, 50V |
| C901, 902 | 22487102 | EL, 1000mfd, 35V |
| C903, 904 | 22486331 | EL, 330mfd, 25V |
| C905, 906 | 22486101 | EL, 100mfd, 25V |
| C907 | 22486331 | EL, 330mfd, 25V |
| C908 | 22486101 | EL, 100mfd, 25V |
| C909 | 22485102 | EL, 1000mfd, 16V |
| C910 | 22485331 | EL, 330mfd, 16V |
| C911 | 22483101 | EL, 100mfd, 10V |
| C914, 915 | 22486101 | EL, 100mfd, 25V |
| C916 | 22483331 | EL, 330mfd, 10V |
| C917 | 22340147 | CD, 0.01mfd, 400V (TE, TU, AY, VF) |
| C917 | 22340140 | CD, 0.01mfd, 125V (TA, TC) |

RESISTORS

All resistors are ±5%, 1/2W, carbon film unless otherwise noted.

| | | |
|-----------|----------|----------------------|
| R401, 402 | 22658494 | 50k ohm, Semi-fixed |
| R403, 404 | 22658498 | 10k ohm, Semi-fixed |
| R405, 406 | 22658496 | 200k ohm, Semi-fixed |
| R407, 408 | 22658493 | 20K ohm, Semi-fixed |
| R409, 410 | 22555224 | 220k ohm |
| R411, 412 | 22555332 | 3.3k ohm |
| R413, 414 | 22555473 | 47k ohm |
| R415, 416 | 22555105 | 1M ohm |
| R501 | 22555222 | 2.2k ohm |
| R502 | 22547391 | 390 ohm, 1/2W |

| Symbol No. | Part No. | Description |
|------------|----------|-------------------|
| R503 | 22547101 | 100 ohm, ½W |
| R504 | 22547681 | 680 ohm, ½W |
| R505, 506 | 22555221 | 220 ohm |
| R507 | 22555152 | 1.5k ohm |
| R508, 509 | 22555102 | 1k ohm |
| R510, 511 | 22555473 | 47k ohm |
| R512, 513 | 22555102 | 1k ohm |
| R514 | 22555681 | 680 ohm |
| R515 | 22655417 | 50k ohm, Variable |
| R516 | 22625013 | 10k ohm, Variable |
| R517 | 22555471 | 470 ohm |
| R518 | 22555104 | 100k ohm |
| R901 | 22547121 | 120 ohm, ½W |
| R902, 903 | 22555222 | 2.2k ohm |
| R904 | 22547181 | 180 ohm, ½W |
| R905 | 22547101 | 100 ohm, ½W |
| R906 | 22555471 | 470 ohm |
| R907 | 22547101 | 100 ohm, ½W |

Following symbols are ones of printed resistors
on P.C.Board.

| | | |
|------------|----------|----------|
| PR401, 402 | 22545473 | 47K ohm |
| PR403, 404 | 22545222 | 2.2K ohm |
| PR405, 406 | 22545104 | 100K ohm |
| PR407, 408 | 22545121 | 120 ohm |
| PR409, 410 | 22545331 | 330 ohm |
| PR411, 412 | 22545224 | 220K ohm |
| PR413, 414 | 22545153 | 15K ohm |
| PR415, 416 | 22545392 | 3.9K ohm |
| PR417, 418 | 22545272 | 2.7K ohm |
| PR419, 420 | 22545331 | 330 ohm |
| PR421, 422 | 22545472 | 4.7K ohm |
| PR423, 424 | 22545473 | 47K ohm |
| PR425, 426 | 22545823 | 82K ohm |
| PR427, 428 | 22545474 | 470K ohm |
| PR429, 430 | 22545682 | 6.8K ohm |
| PR431, 432 | 22545152 | 1.5K ohm |
| PR433, 434 | 22545221 | 220 ohm |
| PR435, 436 | 22545223 | 22K ohm |
| PR437, 438 | 22545222 | 2.2K ohm |
| PR439, 440 | 22545472 | 4.7K ohm |
| PR441, 442 | 22545153 | 15K ohm |
| PR445, 446 | 22545471 | 470 ohm |
| PR447, 448 | 22545103 | 10K ohm |
| PR449, 450 | 22545333 | 33K ohm |

| Symbol No. | Part No. | Description |
|------------|----------|-------------|
| PR451, 452 | 22545333 | 33K ohm |
| PR453, 454 | 22545102 | 1K ohm |
| PR455, 456 | 22545274 | 270K ohm |
| PR457, 458 | 22545224 | 220K ohm |
| PR459, 460 | 22545103 | 10K ohm |
| PR461, 462 | 22545221 | 220 ohm |
| PR463, 464 | 22545221 | 220 ohm |
| PR465, 466 | 22545103 | 10K ohm |
| PR467, 468 | 22545473 | 47K ohm |
| PR469, 470 | 22545102 | 1K ohm |
| PR471, 472 | 22545101 | 100 ohm |
| PR473, 474 | 22545103 | 10K ohm |
| PR475, 476 | 22545101 | 100 ohm |
| PR477, 478 | 22545153 | 15K ohm |
| PR479, 480 | 22545104 | 100K ohm |
| PR481, 482 | 22545104 | 100K ohm |
| PR483, 484 | 22545473 | 47K ohm |
| PR485, 486 | 22545473 | 47K ohm |
| PR502 | 22545104 | 100K ohm |
| PR503 | 22545102 | 1K ohm |
| PR504, 505 | 22545103 | 10K ohm |
| PR506, 507 | 22545103 | 10K ohm |
| PR508, 509 | 22545103 | 10K ohm |
| PR510 | 22545473 | 47K ohm |
| PR511 | 22545103 | 10K ohm |
| PR512 | 22545104 | 100K ohm |

ACCESSORIES

| | | |
|--|----------|-----------------------------|
| | 22902491 | Owner's Manual (TA) |
| | 22902492 | Owner's Manual (TC) |
| | 22902493 | Owner's Manual (TE, TU, AY) |
| | 22902495 | Owner's Manual (VF) |
| | 22164775 | Junction Cord |
| | 22990374 | Cleaner, Head |

TOSHIBA CORPORATION

2-1, GINZA 5-CHOME, CHUO-KU, TOKYO 104, JAPAN